



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/485,500	04/27/2000	ANTHONY JOHN GARDNER	0303.63605	1991

7590

12/18/2002

Lawrence J Crain Esq
Greer Burns & Crain Ltd
300 S Wacker Drive Suite 2500
Chicago, IL 60606

EXAMINER

DIEP, NHON THANH

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/485,500

Applicant(s)

GARDNER, ANTHONY JOHN

Examiner

Nhon T Diep

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-6, 8, 11, 13-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bass et al (US 4,959,641).

by Bass et al discloses a stereoscopic viewing system comprising raw image of a object, which raw image comprises an array of substantially vertical image trips wherein alternating strips are respectively strips taken from source images, being a right eye view image and a left eye view image of the subject, an array of substantially vertical lens strips interposed between the raw image and a focal plane spaced from the raw image, wherein the respective lens strips are positioned to receive light from the raw image strips and refract the received light to cause a stereoscopic image of the subject to be resolved on the focal plane, and masking means comprising a substantially planar array of vertical opaque strips interposed between the raw image and the said focal plane (figures 3-5 and col. 1, ln. 29-31, and col 5, ln. 59 – col. 7, ln. 7) as specified in claim 1; in forming the array of raw image strips, the right eye source image and the left eye source image are both divided into adjacent vertical strips, and those strips taken for the raw image strips comprise every alternate one of the respective source image strips so that every other one of the source image strips is omitted from the raw image

(figure 3, image A and image B and col. 2, ln. 29-39 and col. 5, ln. 10-12) as specified in claim 2; for a monochrome image, the vertical opaque strips are of substantially the same width as that of the raw image strips and have their center lines respectively in register with alternate lines of junction between raw image strips, and the vertical lens strips are also of substantially the same width and have their center lines respectively in register with other alternate lines of junction between raw image strips (col. 5, ln. 10-12) as specified in claims 3 and 11; the masking means is in contact with the raw image (figures 3-5, and col. 5, ln. 10-12) as specified in claims 5 and 13-14; the opaque strip array is substantially co-planar with the lens strip array (opaque strip array = lenticular lens of figures 3-5 and they are substantially co-planar) as specified in claims 6 and 15-16; the array of lens strips comprises a lenticular lens system in which each lens is of a circular cross-section (figures 3-5 and col. 5, ln. 10-12) as specified in claims 8 and 19.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et al, in view of Goldsmith (US 3,674,921).

As applied to claims 1-3 above, it is noted that Bass et al does not particularly disclose that: for a color image, the raw image strips each contain a trio of columns of respective R, G and B pixels, that the lens strips are as wide as the trio and the opaque

strips are of the same width as the individual R, G and B pixels columns and are disposed between the lens strips as specified in claims 4 and 12. Goldsmith teaches that to prevent an observer from viewing an adjacent columns of the screen components through the lenticulation, the lenticulation may be separated by a small opaque strip, although, Goldsmith does not particularly teaches that the opaque strip is of the same width as the individual R, G and B pixel column (col. 7, ln. 25-32 and fig. 6). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Bass et al by using the opaque strip as taught by Goldsmith to prevent an observer from viewing an adjacent columns and to simplify the design by choosing the width of the opaque strip to be the same as of any individual R, G, and B pixel column.

5. Claims 7, 9, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et al, in view of Yoshida et al (US 5,066,099).

As applied to claims 1-3 above, it is noted that Bass et al does not particularly disclose that:

a. the array of lens strips comprises a lenticular lens system in which each lens is of a tri-elliptical cross-section as specified in claims 7 and 17-18.; and

b. the mask means comprises a separate mask member between the raw image and the lens strips as specified in claims 9 and 20.

With regard to a: Yoshida et al, in figure 7b, shows the array of lens strips comprises a lenticular lens system in which each lens is of a tri-elliptical cross-section. It would have been obvious to one of ordinary skilled in the art at the time the invention was made to

modify the system of Bass et al by using the lens system with tri-elliptical cross-section as taught by Yoshida et al as a matter of designer's choice.

With regard to b: Yoshida et al, in figure 2b, el. 6, shows a mask means to control the path of light. It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Bass et al by using the a mask means to control the path of light as taught by Yoshida et al so only lights that are destined to an observers' s eyes can pass through.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. ***

- a. Kurahashi et al (US 6,278,480) discloses a compound eye camera system.
- b. Ezra et al (US 5,602,658) discloses a spatial light modulator and directional display having continuous parallax and an increased number of 2D view.
- c. Nomura et al (US 5,493,427) discloses a three-dimensional display unit with a variable lens.
- d. Momochi (US 5,528,420) discloses a method of and apparatus for outputting images.

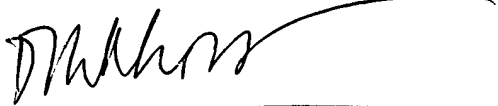
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone numbers

Art Unit: 2613

for the organization where this application or proceeding is assigned are 703 87209314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-2600.



ND
December 14, 2002

NHON DIEP
PRIMARY EXAMINER